Practitioner Education

Learn with me

Evolving Concepts in Care

Carla Wrenn.

Integrative Naturopathic Practitioner

carlawrenn.com

The Rise of GLP-1 in Clinical Practice

October 2025

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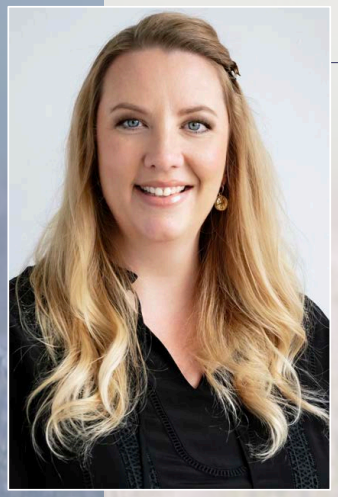

Carla Wrenn

- Degree Qualified Naturopath & Nutritionist in practice for 23 years.
- Founder of Vitae Mosaic – Naturopathic Functional Medicine practitioner training program.
- Founder of PROSPER Naturopathic Oncology supporting patients to use CM before, during & after cancer treatment & training practitioners in cancer support.
- Owner & Director of Peninsula Herbal Dispensary & Naturopathic Clinic in Mornington, Victoria.

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Learning Objectives

- What GLP-1/GIP drugs are and how they work
- Differences between Ozempic®, Wegovy®, Mounjaro®/Zepbound®, Trulicity®, Saxenda®
- Australian landscape: approvals, PBS status, usage trends, shortages
- Average outcomes, common side effects & contraindications
- Complementary medicine (CM) strategies to support patients before, during & after therapy
- Pathology, what pre and post testing
- Beyond obesity: other conditions & future directions

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What do you know about GLP-1?

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The Basic What

What is GLP-1 - Glucagon-Like Peptide 1

A hormone secreted by the cells in your small intestines in response to food intake, as well as some other triggers.

It plays a key role in:

- Enhancing insulin secretion to help reduce blood glucose levels especially after eating.
- Slows gastric emptying so food stays in the stomach for longer increasing transit time.
- This promotes satiety by signaling to the brain that you've had enough to eat.
- Reduced glucagon secretion which helps further stabilise blood sugar levels.

This leads to users feeling more stable energy, better blood glucose control, fewer cravings, better food choices, improved metabolic balance and inflammatory, hormonal and other benefits.

Care with Compassion

- My focus is always on health gains, not shame
- Medication is never someone's first choice
- It’s not cheating, it’s not someone's easy way
- What is the patients' goals?
- Goals framed around energy, biochemistry, metabolic markers, inflammation, mobility and QoL

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Successful Care

1. Shared decision making
2. Informed consent
3. Testing Schedule - Pretest, 3 monthly, post care
4. Goals - Clear & achievable
5. Food Plan - simple and varied, no orthorexia
6. Side Effect - prevention or management
7. After Care – wellbeing plan

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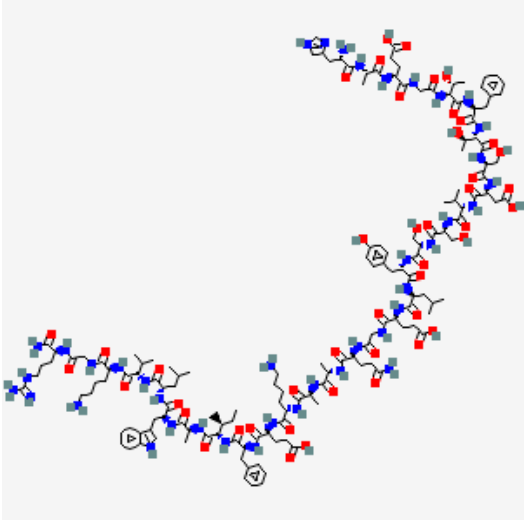
Glucagon-Like Peptide 1

A peptide of 36 or 37 amino acids that is derived from PROGLUCAGON and mainly produced by the INTESTINAL L CELLS. GLP-1(1-37 or 1-36) is further N-terminally truncated resulting in GLP-1(7-37) or GLP-1-(7-36) which can be amidated.

These GLP-1 peptides are known to enhance glucose-dependent INSULIN release, suppress GLUCAGON release and gastric emptying, lower BLOOD GLUCOSE, and reduce food intake.



Read more at https://pubchem.ncbi.nlm.nih.gov/compound/Glucagon-like-peptide-1

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GLP-1 in Your Body

GLP-1 is hormone that plays a crucial role in blood sugar management, appetite and heart health. Synthesis, activation and the action of GLP-1 occurs in several organs including:

- Small Intestines (Mostly the L-cells in the Ileum and Colon)
- Pancreas
- Liver
- Brain
- Stomach

Working in unison these organs play a key role in the action of GLP-1 to regulate blood sugar, appetite, satiety, body weight and more.

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What Are Incretin Hormone Therapies?

GLP-1 - Glucagon-Like Peptide 1
GIP - Glucose-Dependent Insulinotropic Peptide

Medications: GLP-1 receptor agonists include - semaglutide, liraglutide, dulaglutide and exenatide

Combinations: Future weight loss peptides will likely build on current GLP-1/GIP agonists with dual or triple-agonist compounds like tirzepatide and the investigational retatrutide, which show superior efficacy to older GLP-1 agonists like semaglutide and liraglutide. The dual GIP/GLP-1 agonist is tirzepatide.

General Effects: ↓ appetite/food noise, slower gastric emptying, ↑ satiety, improved glycaemia

How They Are Used: Subcutaneous injection mostly used weekly and generally with gradual dosage titration.

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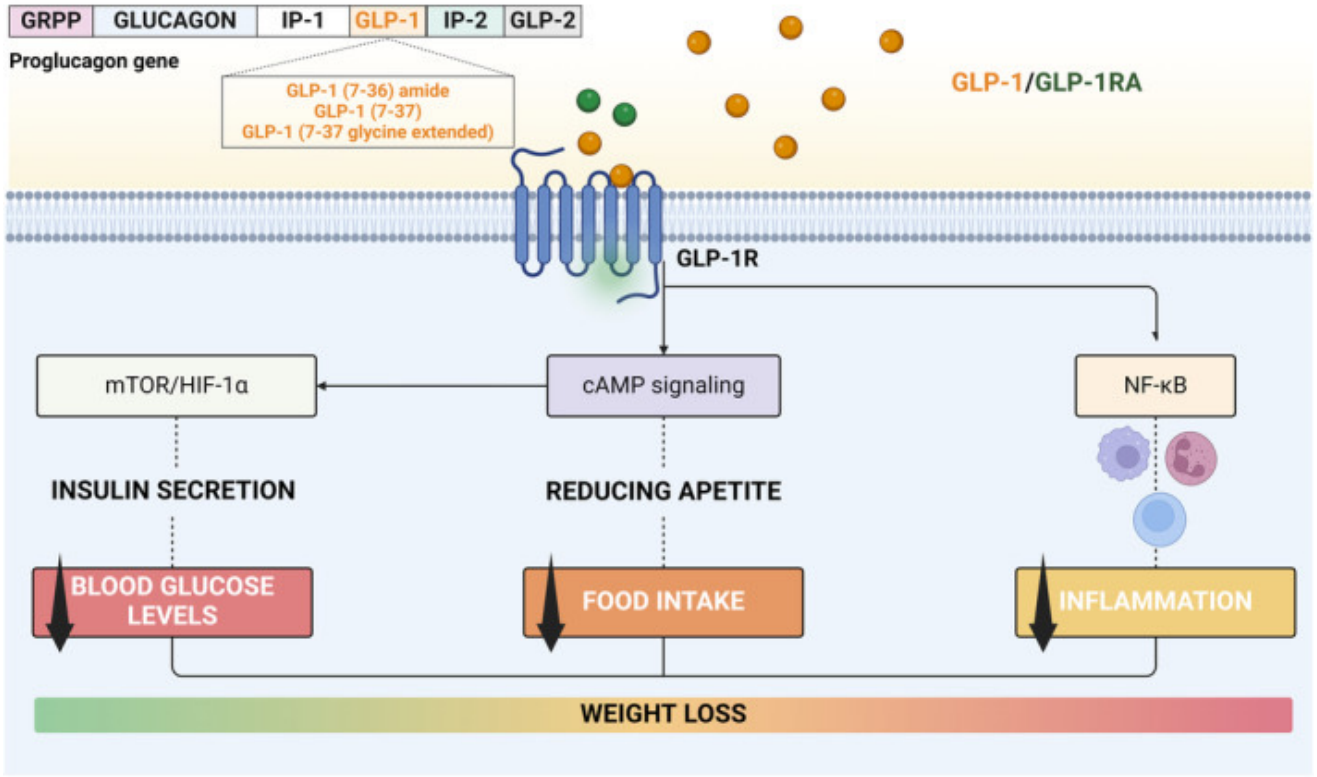
The Basic How

PMID: 39696822



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The Basic How

The proglucagon gene consists of 6 exons, one on which is the encoding region of GLP-1.

GLP-1 exists in 3 active forms, GLP-1 (7–36) amide, GLP-1 (7–37), and GLP-1 (7–37 glycine extended).

The GLP-1 binds the G protein–coupled receptor GLP-1R and mainly promotes:

- Lower blood glucose levels by promoting insulin secretion by the mTOR-dependent HIF-1α activation pathway
- A decrease in food intake and long-term weight loss
- Anti-inflammatory effects, targeting GLP-1R expressed on distinct populations of circulating immune cells and reducing systemic inflammation by decreasing NF-κB signalling.

PMID: 39696822

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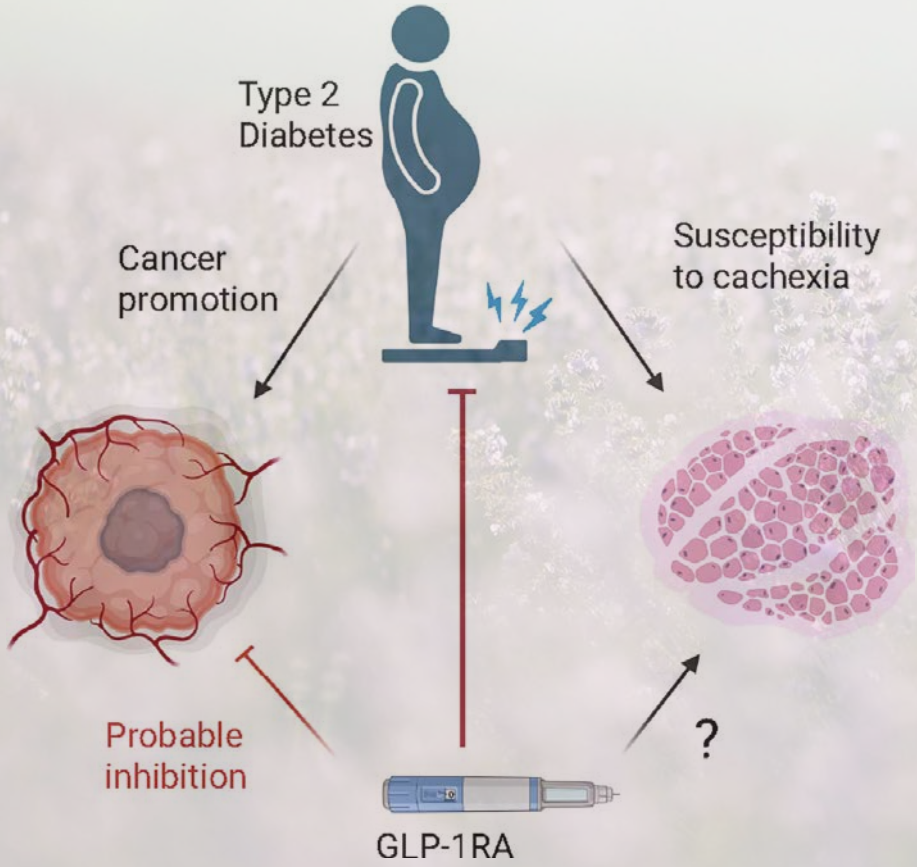
Probable Inhibitory Effect on T2D with Cancer



Some evidence points to a possible neoadjuvant effect of these drugs for patients with cancer that would justify the initiation of GLP-1RAs to support therapy in a subset of patients. At the same time, there is a very present concern that drugs that induce weight loss may also precipitate the loss of muscle mass, cachexia, in patients.

PMID: 40285503

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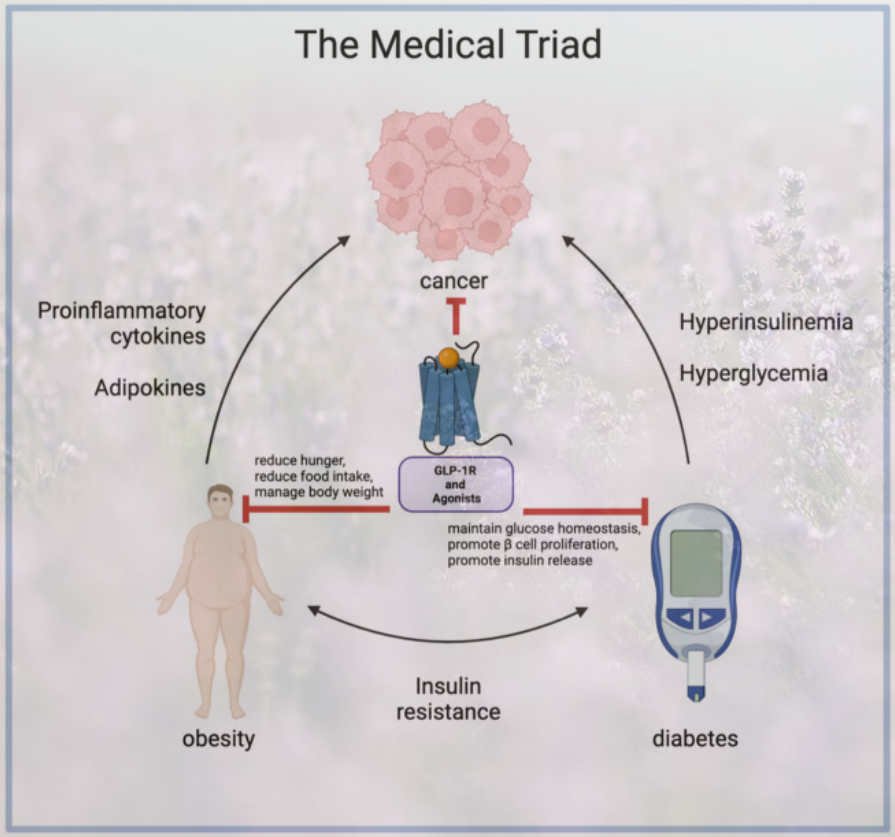
GLP-1 - Cancer, Obesity & Diabetes



PMID: 38801466

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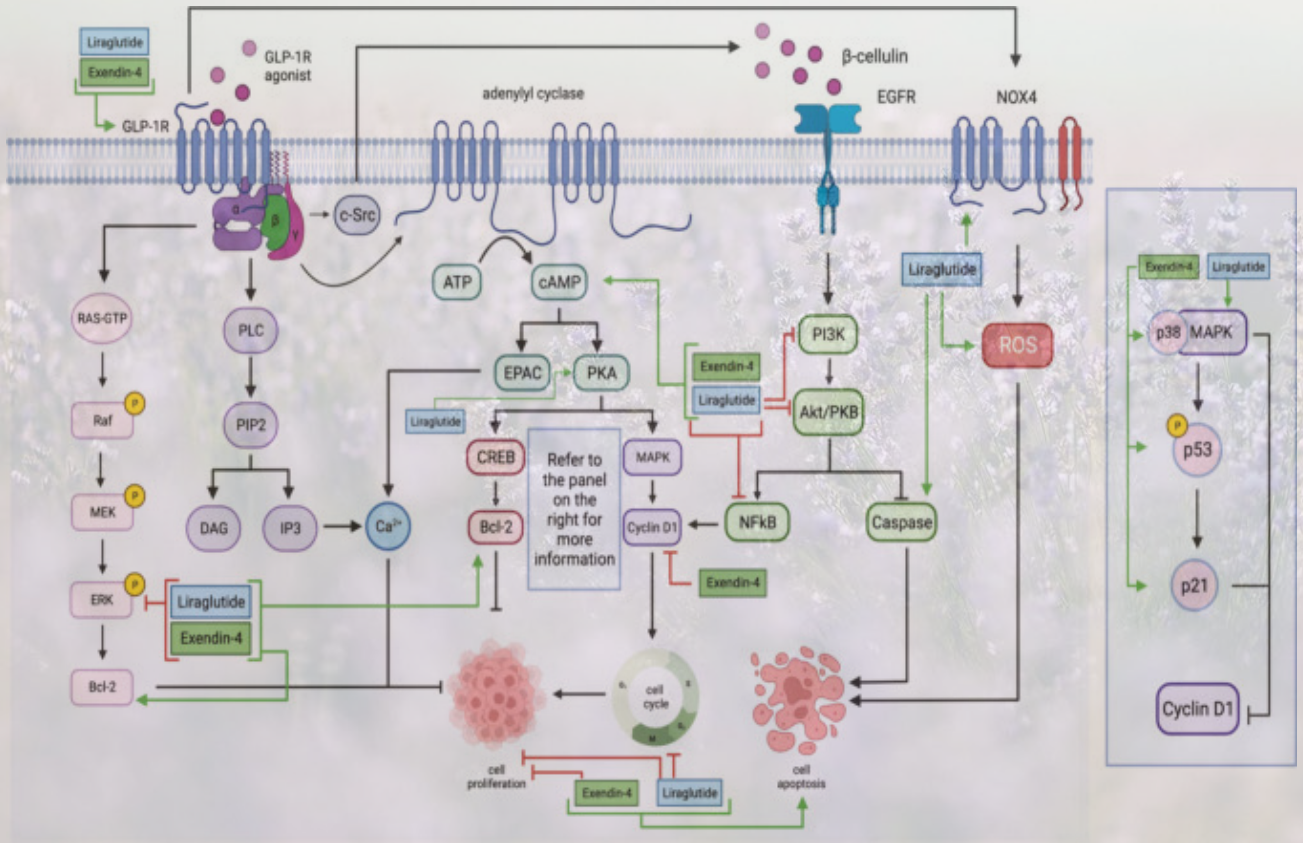
Cell Proliferation & Apoptosis



Liraglutide and Exendin-4 decrease NF-κB, cell proliferation and phosphorylated ERK in cancer:

- Liraglutide decreases Pl3K, Akt/PKB, and cell division while increasing GLP-1Rs, NOX4, ROS, caspase, MAPK, cAMP, Bcl-2, PKA, and cell apoptosis levels.
- Exendin-4 decreases Cylin D1 while increasing GLP-1Rs, MAPK, p21, p53, cAMP, Bcl-2, and cell apoptosis.

PMID: 38801466

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Type 2 Diabetes

"In addition to improving glycaemic control, GLP-1 RAs have been shown to lower total body weight, BP and cholesterol as well as to improve renal function and beta-cell proliferation.

These agents should be considered in every patient with T2DM due to their substantial clinical benefits and potential to help reduce disease burden."

PMID: 38531038

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Neuroinflammation & Cognition

- Neuro & Cognitive Effects
- Improve insulin sensitivity in brain -> better glucose use
- Reduce amyloid-B and tau build up (Alzheimer's relevance)
- Shift microglia to anti-inflammatory state
- Support learning, memory, and mood

PMID: 38531038

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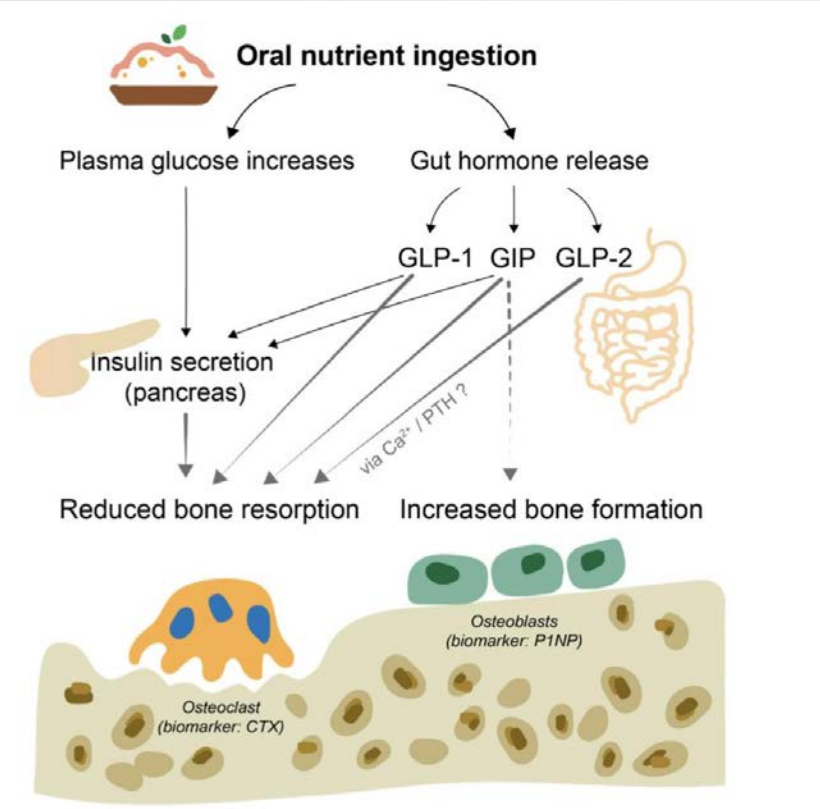
Bone Health with GIP, GLP-2 & GLP-1



- GIP + GLP-2 regulate bone turnover
- GIP reduces bone resorption (osteoclast inhibition)
- GLP-1 modestly supports bone mineral density

PMID: 36441432

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The How, Simplified

- CNS: hypothalamic satiety pathways (POMC/CART)
- Gut: delayed gastric emptying (early weeks) → smaller portions
- Pancreas: glucose-dependent insulin ↑ and glucagon ↓ (anti-hypoglycaemic vs SU/insulin)
- Metabolic Pathways: lower energy intake, sometimes food aversion → caloric deficit

Meet the Medicines in Australia

Semaglutide:

Ozempic® - T2D

Wegovy® - obesity & CV risk reduction

Tirzepatide:

Mounjaro® - T2D

Zepbound® - obesity

Dulaglutide:

Trulicity® - T2D

Liraglutide:

Saxenda® - obesity (used daily and being phased out in Aust in late 2025)

Exenatide:

Byetta®/Bydureon® (limited legacy T2D use)

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GLP-1 in the Australian Landscape

TGA approved and typical indications in Australia

PBS - Ozempic®/Trulicity® for T2D

Not PBS - Wegovy®/Ozempic®/Mounjaro® for Obesity

Access – Many GPs have a limited understanding, online clinics are booming
Supply constraints - periodic shortages especially with Ozempic®/Trulicity®

CM Clinical Impact - More people are presenting in our CM clinics already on GLP-1 therapies from various prescribers

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Multiple Clinical Benefits of GLP-1 Agonists

MEDICINE

The benefits of GLP-1 drugs beyond obesity

Glucagon-like peptide–1–based medicines have weight loss–independent actions

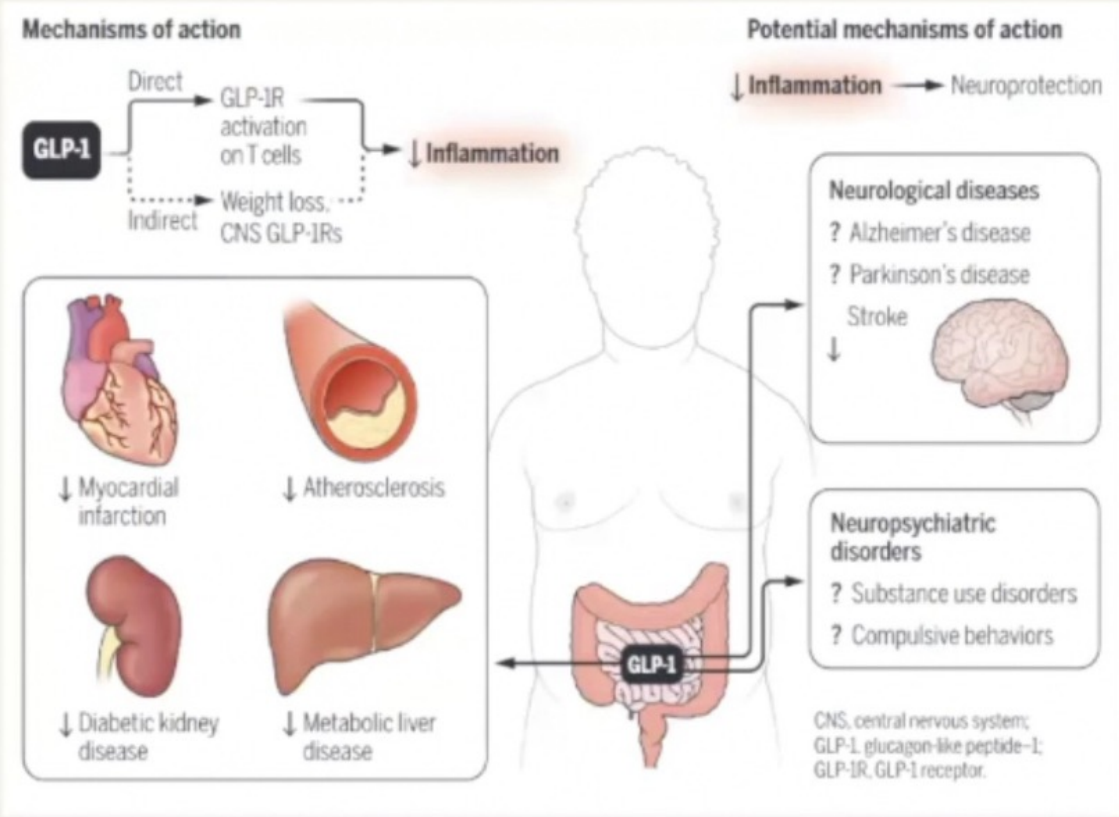
By Daniel J. Drucker

Glucagon-like peptide–1 (GLP-1) is secreted from gut endocrine cells in response to food ingestion and acts as an incretin hormone to potentiate glucose-dependent insulin secretion. Pharmacological GLP-1 receptor (GLP-1R) activation reduced glucagon secretion (which raises blood glucose) and gastric emptying, leading to the development of GLP-1 therapies for the treatment of type 2 diabetes (T2D). GLP-1R is expressed on several pancreatic islet cell types and within multiple regions of the central nervous system. Subsequent studies revealed that exogenous GLP-1 administration inhibited food intake through brain GLP-1R activation in animals and humans, leading to weight loss. The decades-long use of GLP-1 medicines, principally acylated peptides such as liraglutide and semaglutide, for the treatment of obesity and T2D (1) has revealed that they also exert pleiotropic actions beyond glucose and weight control, such as reduction of heart and kidney diseases. There are several potential mechanisms underlying these benefits, such as reduction of myocardial inflammation (2), which have implications for future clinical applications and drug development.

The first approved GLP-1 medicines, such as exenatide and lixisenatide, required once- or twice-daily administration and were followed by longer-acting versions such as dulaglutide, exenatide once weekly, semaglutide, and tirzepatide [a glucose-dependent insulinotropic polypeptide receptor (GIPR) and GLP-1R coagonist] that are suitable for once-weekly administration. A major cardiometabolic benefit of GLP-1 therapies became evident in the cardiovascular system. A series of preclinical studies demonstrated that GLP-1R agonists protect ischemic myocardium and preserve cardiac function after ischemic cardiac injury, actions that are independent of glucose control or weight loss (3). GLP-1 medicines were studied in eight distinct cardiovascular outcome trials in people with T2D, and one trial in people with obesity. Long-acting GLP-1 medicines that are continuously present in the circulation reduced rates of nonfatal stroke, nonfatal myocardial infarction, and cardiovascular death in people with T2D and/or obesity. Subsequent trials demonstrated a benefit for semaglutide in people with heart failure with preserved ejection fraction, with or without T2D (NCT04000035).

How might this happen? Indirect roles for the cardiovascular benefit of GLP-1 drugs include reduction of blood pressure and attenuation of atherogenic lipoproteins secreted from the gut, better control of blood glucose, and weight loss. However, preclinical studies demonstrate that GLP-1 protects the ischemic heart in normotensive nondiabetic animals to a greater extent than achieved with weight loss. Furthermore, a long-acting GLP-1 therapy, albiglutide, withdrawn from the market owing to modest efficacy for reduction of glucose and body weight in people with T2D, reduced the rates of major adverse cardiovascular events by 22% (NCT02465515).

Mechanistically, the distribution of GLP-1R expression differs in the mouse versus the human heart, challenging the utility of preclinical studies for inferring underlying mechanisms in humans. GLP-1 therapies also reduce the development of atherosclerosis in sensitized mouse models, and clinical trials are underway in people with peripheral artery disease (NCT04560998). The mechanisms linking GLP-1R activation to the reduction of atherosclerosis and/or improved blood flow are not well understood but may be independent of weight loss and are instead associated with reduced inflammation. Interestingly, the cardioprotective effect of semaglutide observed in people with obesity developed within months of drug initiation, well before meaningful weight loss had been achieved in most trial participants. Furthermore, in the SELECT cardiovascular outcome trial (NCT03574597) studying semaglutide in people with obesity, the extent of weight loss did not correlate with the effects of the drug to reduce heart attacks, stroke, and cardiovascular death. Whether GLP-1 medicines might be cardioprotective in people with type 1 diabetes, or nondiabetic individuals at



Science. 2024 Jul 19;385(6706):258-260

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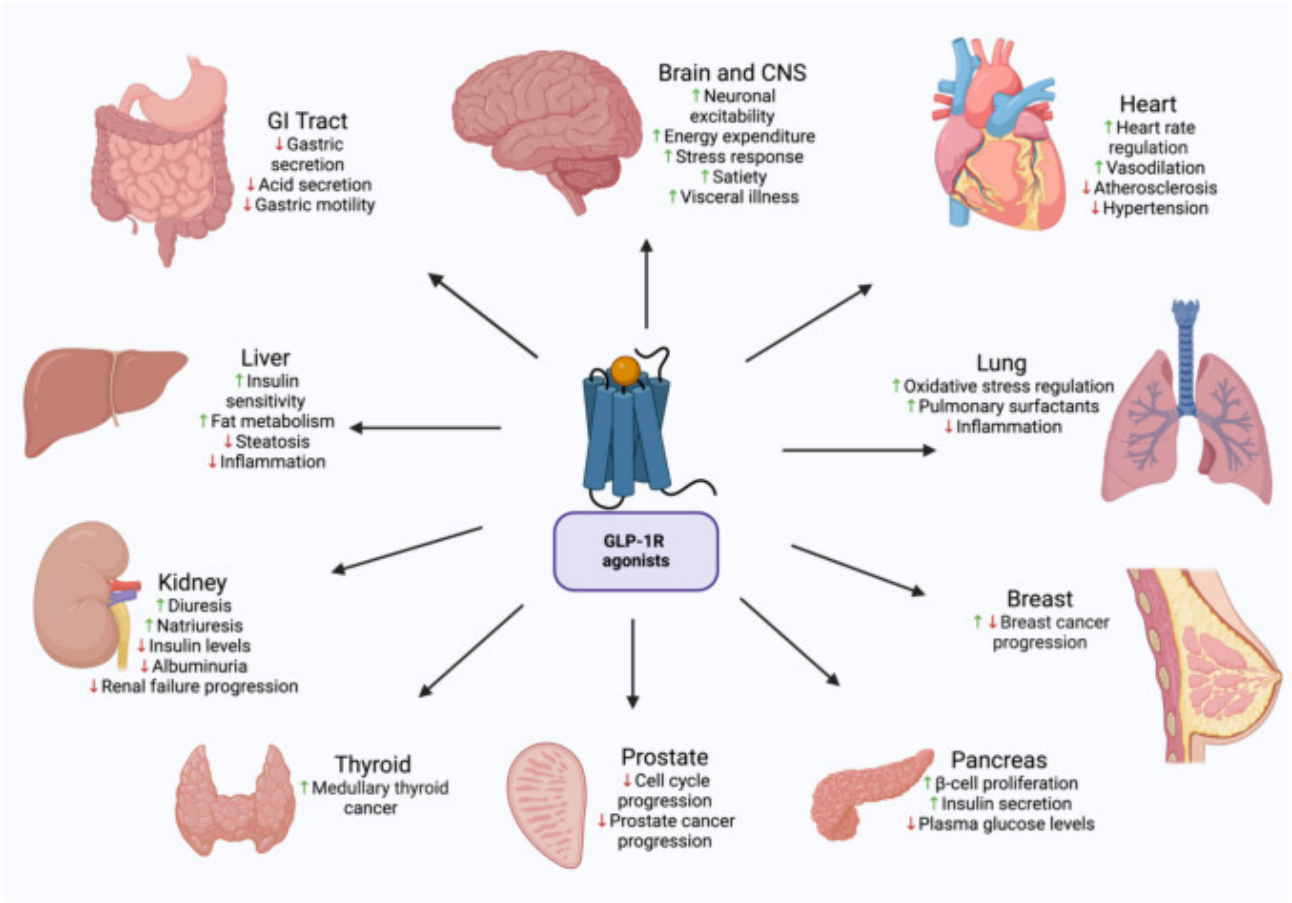
Effects of GLP-1 on Organs

PMID: 38801466



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Average Outcomes

Semaglutide 2.4 mg – approx 15% mean weight loss at 68–72 weeks (PMID: 33567185)

Tirzepatide 10–15 mg - approx 20% mean weight loss at around 72 weeks (PMID: 39497468)

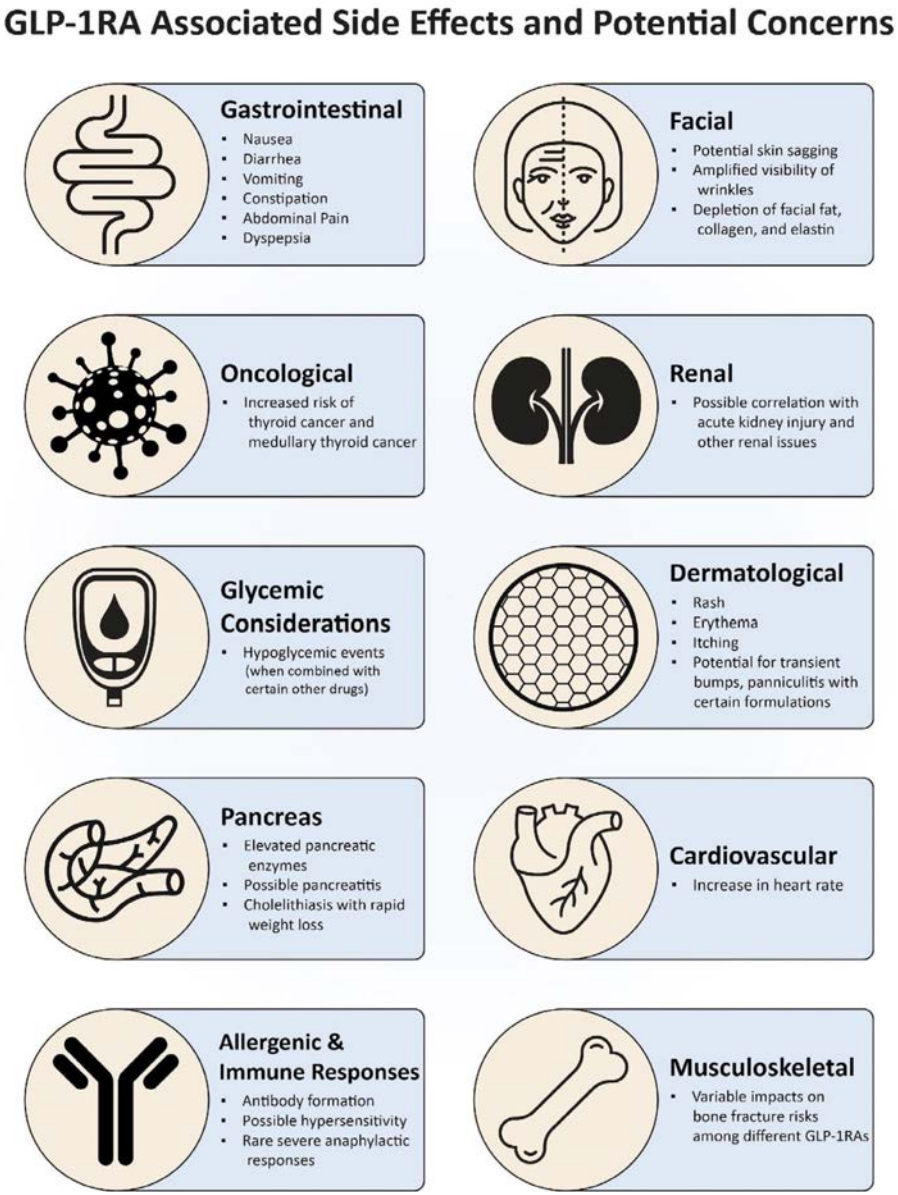
- Better Glycaemic, BP, Lipid control
- Major Cardiovascular Adverse Events are reduced with semaglutide in people with overweight/obesity & CVD
- Many more…
- Growing daily…

Common Side Effects

- Nausea, early satiety, reflux/heartburn, constipation or diarrhoea
- Headache, fatigue, dizziness (hypoglycaemia/low food intake/dehydration)
- Gallbladder complications (uncommon)
- Pancreatitis (rare)
- Delayed gastric emptying → peri-procedural fasting considerations (surgical consideration)

Common Side Effects

- The body builds a tolerance to the medication, so many side effects with reduce with time
- Is the side effect from the drug itself OR from the impact of the drug? Like nutrient deficiencies or blood sugar dysregulation



Wan, J., Ferrari, C., & Tadros, M. (2024). GLP-1RA Essentials in Gastroenterology: Side Effect Management, Precautions for Endoscopy and Applications for Gastrointestinal Disease Treatment. *Gastroenterology Insights*, *15*(1), 191-212. https://doi.org/10.3390/gastroent15010014

Contraindications & Red Flags

- Personal/family history of medullary thyroid carcinoma (MTC) or Multiple Endocrine Neoplasia Type 2 (MEN2)
- Pregnancy & breastfeeding (planning conception?)
- Severe Gastrointestinal diseases like gastroparesis & active pancreatitis
- Caution: proliferative diabetic retinopathy; concomitant insulin due to the hypoglycaemia risk

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Review > Thyroid. 2024 Apr;34(4):403-418. doi: 10.1089/thy.2023.0530. Epub 2024 Mar 26.

Glucagon-Like Peptide-1 Receptor Agonists and Thyroid Cancer: A Narrative Review

Ana E Espinosa De Ycaza [1], Juan P Brito [2], Rozalina G McCoy [2 3 4], Hui Shao [5 6], Naykky Singh Ospina [7]

Affiliations + expand

PMID: 38343381 PMCID: PMC10998705 DOI: 10.1089/thy.2023.0530

What about Thyroid Cancer?

"Evidence from randomized controlled trials indicates occurrence of thyroid cancer is infrequent in individuals exposed to GLP-1 RA. Observational studies at higher risk of bias yield inconsistent results. Overall there is no conclusive evidence of elevated thyroid cancer risk. These findings can help clinicians when addressing patient's concerns about a potential yet unproven link between GLP-1 RA therapy and thyroid cancer."

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Review > Int J Eat Disord. 2024 Feb;57(2):286-293. doi: 10.1002/eat.24109.
Epub 2023 Dec 22.

Use of glucagon-like peptide-1 receptor agonists in eating disorder populations

Sara Bartel [1], Susan L McElroy [2 3], Danielle Levangie [1], Aaron Keshen [1 4]

Affiliations + expand

PMID: 38135891 DOI: 10.1002/eat.24109

GLP-1 and Eating Disorders

"Despite glucagon-like peptide-1 receptor agonists increasingly being the topic of clinical and public discourse, little is known about their potential impact on ED symptoms. It is possible that GLP-1As could maintain, worsen or improve ED symptoms."

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Consumer Popularity & Ethics

A High & Growing Demand:

- Driven by results
- Media/social buzz
- Telehealth platforms
- Grey-zone advertising

Talking Points:

- Medical supervision
- Nutrition adequacy
- Expectations
- Cost/supply
- Stigma-free counselling

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Clinical Case Taking Plan

Weight History: trajectory, prior weight loss attempts, eating disorder history

Medications: obesogenic drugs, past/current weight-loss medications

Exercise: type, frequency, barriers to participation

Diet: overall pattern, quality, calorie-rich beverages

Sleep: quantity, quality, disturbances

Stress: physical and emotional stressors

Ethnicity and cultural background

Family History: weight-related conditions, childhood weight concerns

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Clinical Case Taking Plan

Medical: MI, CHE, CAD, COPD, asthma, PUD, hyperlipidemia, gallstones, hypothyroidism, hypertension, cancer, DVT/PE, stroke, T2DM, gout, CKD, PCOS, OSA, migraines, seizures, smoking history

Surgical: bariatric, abdominal, gynecological procedures

Review of Systems: General, cardiac, endocrine, abdominal, pulmonary, genitourinary, psychiatric, neurologic domains

Physicals: BP, HR, neck & waist circumference, body composition, thyroid exam, hirsutism, oedema

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Our CM Support Pillars

CM Aims:

- Support personalised wellbeing
- Maximise benefits
- If used for metabolic health, use CM to support this too
- Minimise side effects
- Preserve lean mass
- Support improved long-term habits

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Our CM Support Pillars

4 Key Pillars

1. **Nutrition**
2. **Supplement with Nutraceutical/Herbal Options**
3. **Movement**
4. **Lifestyle Medicine Foundations**

Integrate with prescribing team; document scope & communicate plan

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Pathology for a Pre-Treatment Baseline

- Metabolic - HbA1c, fasting glucose/insulin, CGM
- Cholesterol
- Liver & Kidney Function - LFTs, eGFR/U&Es
- Vitamin D, B12, ferritin/iron studies (personalised)
- TSH (if clinically indicated)
- hs-CRP (optional)

Review the I-Screen ‘GLP-1 Pre-Treatment Health Check’

Pathology for Monitoring During Therapy

- Weight/waist, strength metrics & symptom check in at each visit
- HbA1c every 3–6 months
- Lipids at 3–6 months
- CGM if support needed
- LFTs if symptomatic; renal function if at risk
- hs-CRP
- TSH, FT4, FT3
- Nutrient markers based on intake/symptoms (B12, iron, vitamin D)
- Adjust CM plan and create a long-term nutritional strategy

Review the I-Screen ‘GLP-1 Follow-Up Health Check’

Pathology for Monitoring After Therapy

- Weight/waist, strength metrics & symptom check in at each visit
- HbA1c every 6–12 months
- Lipids, LFTs & renal function every 6–12 months
- Bone health with DEXA
- Nutrient markers based on intake/symptoms (B12, iron, vitamin D)
- Adjust CM plan and create a long-term nutritional strategy
- Nutritional monitoring

Review the I-Screen ‘GLP-1 Follow-Up Health Check’

Nutrition on GLP-1s

Protein

- Target 1.2–1.6 g/kg/day
- Complete proteins
- Supplement
- Ensure protein is consumed first when appetite is lowest

Fibre

- 25–35 g/day through whole foods
- Add supplements

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Nutrition on GLP-1s

General

- Small, frequent meals initially
- Avoid high fats
- Avoid high sugar
- Avoid spicy foods
- Avoid highly processed foods
- Avid refined carbohydrates
- Hydration & electrolytes
- Alcohol reduction/cessation
- Micronutrients to watch: B12, iron, vitamin D (personalise) and supplement
- INCREASE bitter foods

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CM Toolkit - Managing Nausea

Ginger tea/capsules - before meals

Peppermint tea/aromatherapy

Cinnamon aromatherapy

M&P Nausea Relief Spray

Iberogast®- before meals

Digestive Enzymes

Separate Drinks & Food

CM Toolkit - Managing Reflux

Iberogast®- before meals

Digestive enzymes

Eat earlier

Smaller portions

Elevate head of bed for reflux

Slippery Elm

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CM Toolkit – Managing Constipation

Iberogast®- before meals

DFH Paleo Fibre – before bed

Magnesium citrate/glycinate

Activate Probiotics Biome Lax or preferred probiotics for bowel regularity

Chew well

Smaller portions

Exercise

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CM Toolkit – Managing Diarrhoea

Hydration

Broth Based Soups

Rice, Banana and Carrot

Probiotics

Iberogast®- before meals

Smaller portions

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CM Toolkit - Managing Nutritional Depletion

Essentials for the varied and wide impact of rapid onset nutritional deficiencies.

Commonly including:

- Skin dryness and laxity
- Hair loss
- Brain fog
- Fatigue
- Muscle loss

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CM Toolkit – Managing Muscle Loss

Orthoplex SarcoCare

BioMedica Protein Complete

Digestive enzymes

Eat proteins first

Protein with 2 meals and 1 snack daily (or more)

Movement

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Movement

Prioritise progressive resistance training 2–3×/week

For deconditioned patients: start with walks, stationary bike, body bands and sit-to-stands body weight exercises

Refer to an Exercise Physiologist

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Lifestyle Medicine Steps

- Sleep – Poor sleep decreases GLP-1, increases ghrelin and disrupts insulin and appetite regulation, aim for 7–9 h with consistent schedule and morning light exposure.
- Stress - Control cortisol highs to reduce stress' impact on GLP-1 production with breathwork, mindfulness or nature time.
- Social support – great for accountability
- Purpose

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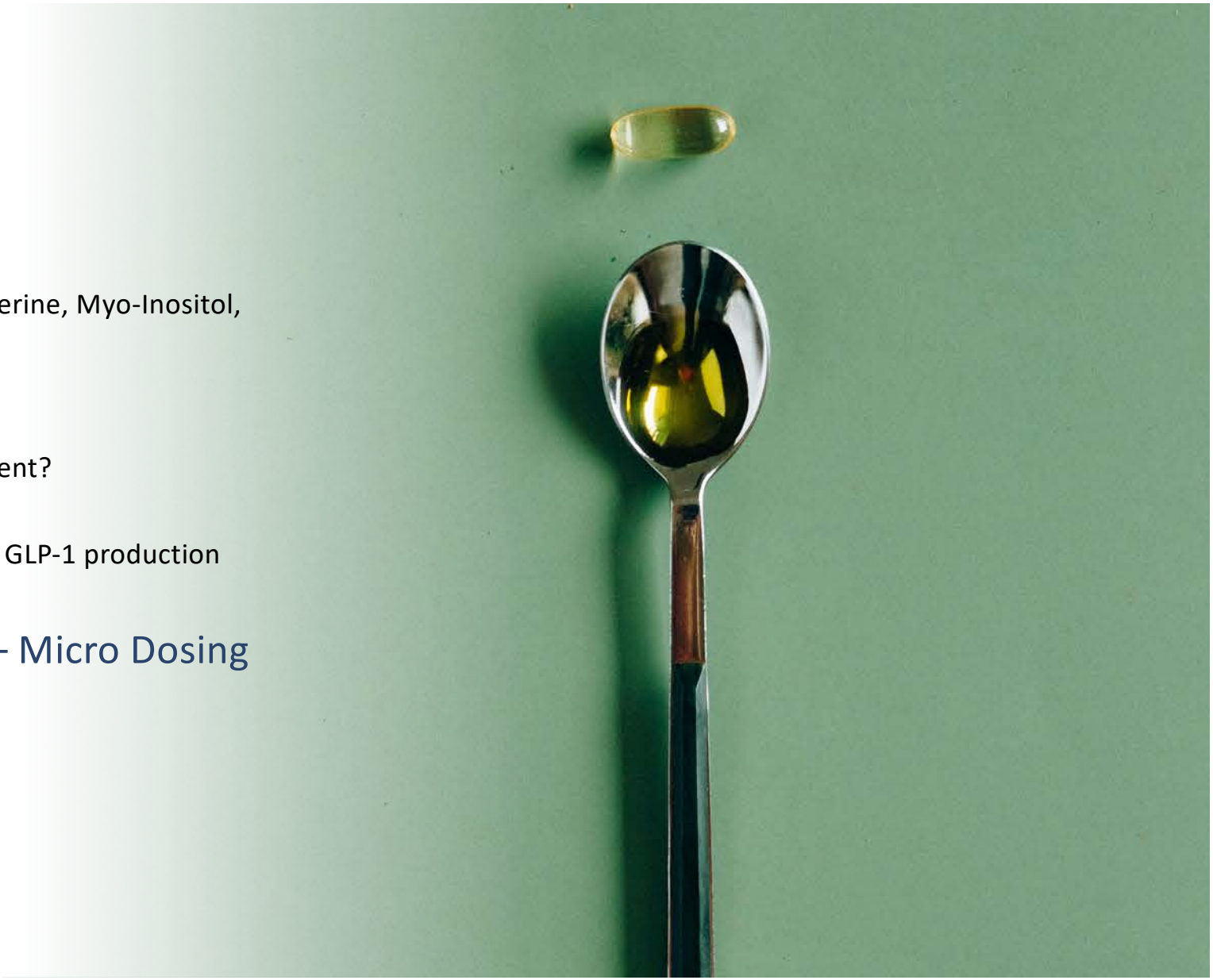
Prescriptions

- Blood Glucose Regulation – Berberine, Myo-Inositol, Chromium & Magnesium
- GB and Liver Support
- Inflammation – SPMs
- Probiotics – Gut Health, assessment?
- HMB or Collagen
- Bitter Foods – promoting natural GLP-1 production

Personalised Prescribing – Micro Dosing



Beyond Obesity – Other Benefits

- Cardiovascular risk reduction in people with overweight/obesity & established CVD
- Chronic kidney disease (T2D) - slowed progression in trials
- NAFLD/NASH - histologic improvement signals (ongoing studies)
- Mobility & Fall Issues - Joint pain/function often improves secondary to weight change

Beyond Obesity – Other Benefits

- Inflammatory pain
- Osteoarthritis
- Headaches and migraines
- Neuropathic pain and diabetic neuropathy
- Visceral pain
- Irritable bowel syndrome

PMID: 38997662

Special Populations - Menopause

- Menopausal symptom overlap including sleep, mood, weight redistribution
- GLP-1s may assist central adiposity
- Important - Maintain protein & movement to protect bone & muscle health
- Complementary personalised support with GLP-1 and menopausal support

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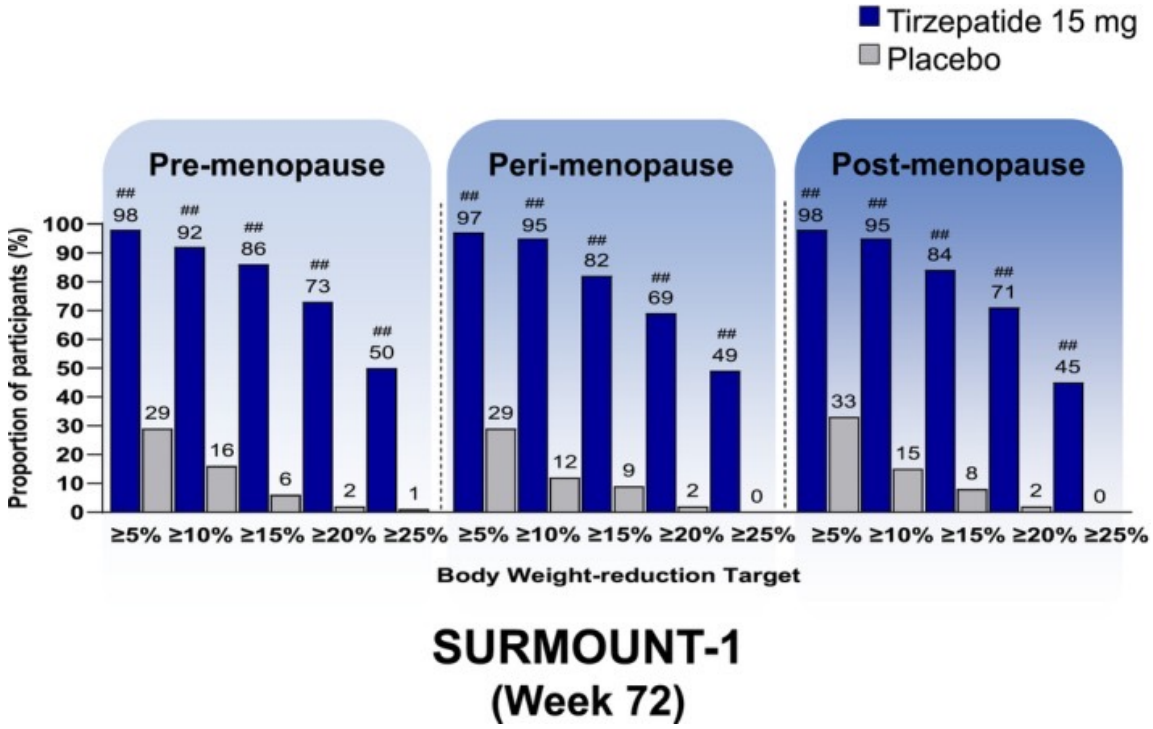
Special Populations - Menopause

PMID: 40074721



SURMOUNT-1
(Week 72)

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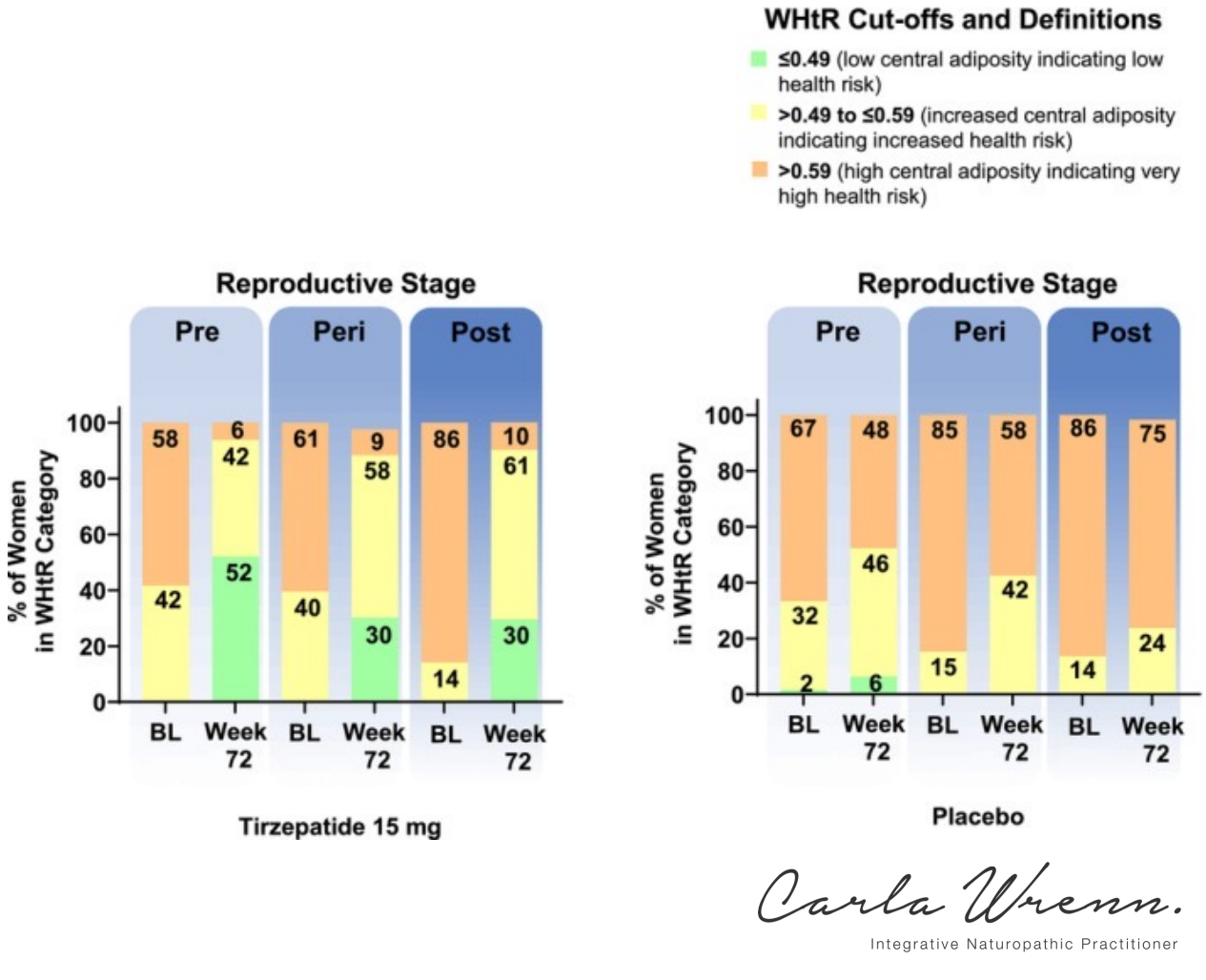
Special Populations - Menopause

PMID: 40074721

WHtR by reproductive stage subgroup among participants with baseline BMI < 35



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> Metab Syndr Relat Disord. 2025 Feb;23(1):70-76. doi: 10.1089/met.2024.0124. Epub 2025 Jan 6.

Effectiveness of Low Doses of Semaglutide on Weight Loss and Body Composition Among Women in Their Menopause

Joana Nicolau [1 2], Jorge Blanco-Anesto [3], Aina Bonet [2], Juan José Félix-Jaume [1], Apolonia Gil-Palmer [2]

Affiliations + expand

PMID: 39761057 DOI: 10.1089/met.2024.0124

Special Populations - Menopause

Conclusions: Despite a greater initial weight and fat mass among postmenopausal women, after 4 months of treatment with semaglutide 1 mg, either fat mass loss or weight loss were similar to premenopausal women.

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Special Populations – Fertility & PCOS

- Weight & insulin sensitivity improvements can support fertility metrics
- “The current literature suggests that GLP-1RAs show promise as a potential therapeutic approach for improving sperm parameters in obese men.” (PMID: 38256311)
- Contraception while on GLP-1 therapy & stopping prior to conception is recommended
- “Based on the available literature a 4-week washout period prior to attempting conception may be considered for the agents reviewed in this publication.” (PMID: 37678163)

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Integrative Naturopathic Practitioner

Special Populations – Fertility & PCOS

Conclusions: The weight loss effects of GLP-1 RA offer a unique opportunity to expand the treatment options available to PCOS patients.

Review > J Clin Endocrinol Metab. 2020 Aug 1;105(8):e2695-e2709.
doi: 10.1210/clinem/dgaa285.

Obesity, Polycystic Ovary Syndrome, and Infertility: A New Avenue for GLP-1 Receptor Agonists

Hellas Cena [1 2], Luca Chiovato [3 4], Rossella E Nappi [5 6]

Affiliations + expand

PMID: 32442310 PMCID: PMC7457958 DOI: 10.1210/clinem/dgaa285

Abstract

Context: Obesity is responsible for an increased risk of sub-fecundity and infertility. Obese women show poorer reproductive outcomes regardless of the mode of conception, and higher body mass index (BMI) is associated with poorer fertility prognosis. Polycystic ovary syndrome (PCOS) is one of the leading causes of infertility, and many women with PCOS are also overweight or obese.

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Other Health Complaint's Are Improving!

Home | JAMA | Vol. 331, No. 18

Medical News & Perspectives

Could GLP-1 Receptor Agonists Like Semaglutide Treat Addiction, Alzheimer Disease, and Other Conditions?

Rita Rubin, MA[1]

» Author Affiliations | Article Information

RELATED ARTICLES MEDIA

As a clinician, family nurse practitioner Luba Yammine, PhD, MSN, sees patients with substance use disorders, including many who smoke.

She couldn't help but notice something surprising when she prescribed a particular class of medications to treat patients with type 2 diabetes.

"All of a sudden they'd quit smoking," Yammine recalled in an interview. "That sort of prompted my dive into the literature."

Yammine, an associate professor in the department of psychiatry and behavioral sciences at UTHealth Houston, found some animal studies suggesting that glucagon-like peptide 1 (GLP-1) receptor agonists—better known by such brand names as Ozempic and Wegovy (semaglutide), Victoza (liraglutide), and Byetta (exenatide)—reduced nicotine-seeking behaviors.

Rubin R. Could GLP-1 Receptor Agonists Like Semaglutide Treat Addiction, Alzheimer Disease, and Other Conditions? JAMA. 2024;331(18):1519–1521. doi:10.1001/jama.2024.1017

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Obesity Related Complaints – Obstructive Sleep Apnea

"Traditionally, obstructive sleep apnoea (OSA) management has focused on continuous positive airway pressure therapy, oral appliances, and in some cases, surgical interventions. However, these treatments do not directly address the underlying metabolic issues contributing to OSA.

Improve OSA symptoms by reducing fat deposition around the upper airway and decreasing systemic inflammation. Emerging clinical trials suggest that GLP-1 RAs may enhance traditional OSA treatments, offering an integrated approach targeting the root cause of obesity in OSA. Additionally, GLP-1 RAs may provide benefits for other obesity-related comorbidities, including hypertension and cardiovascular disease, which are commonly associated with OSA."

PMID: 39621418

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Integrative Naturopathic Practitioner

Depression

Conclusions: Adults treated with GLP-1RAs showed significant reductions in the depression rating scale scores compared to those treated with control substances. Our findings suggest that GLP-1RAs may be a potential treatment for alleviating depressive symptoms in humans.

Meta-Analysis > Am J Geriatr Psychiatry. 2024 Jan;32(1):117-127.
doi: 10.1016/j.jagp.2023.08.010. Epub 2023 Aug 21.

The Antidepressant Effects of GLP-1 Receptor Agonists: A Systematic Review and Meta-Analysis

Xinda Chen [1], Peiyi Zhao [2], Weihao Wang [3], Lixin Guo [3], Qi Pan [4]

Affiliations + expand

PMID: 37684186 DOI: 10.1016/j.jagp.2023.08.010

Free article

Abstract

Aim/hypothesis: Emerging evidence suggests that glucagon-like peptide-1 receptor agonists (GLP-1RAs) may exert positive effects in patients with depression. Our aim was to conduct a systematic review and meta-analysis to examine the antidepressant effects of GLP-1RAs.

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Alcohol Use Disorder

These preclinical results have been confirmed and extended in human studies in which GLP-1 receptor agonists reduce alcohol intake in patients with alcohol use disorder (AUD) who have a regular weight or comorbidity of obesity or type 2 diabetes. On a similar note, genetic variations in genes encoding for the GLP-1 receptor are associated with AUD and heavy drinking. The central mechanisms by which GLP-1 regulates alcohol-related behaviors are not fully defined, but may involve areas central to reward as well as regions projecting to these reward areas, such as the nucleus tractus solitarius of the brainstem. Together, existing preclinical and clinical data suggest that GLP-1 is involved in the AUD process and implies its role as a tentative treatment for AUD.

Review > Endocrinology. 2025 Feb 27;166(4):bqaf028. doi: 10.1210/endocr/bqaf028.

GLP-1 Receptor Agonists: Promising Therapeutic Targets for Alcohol Use Disorder

Elisabet Jerlhag [1]

Affiliations + expand

PMID: 39980336 PMCID: PMC11879929 DOI: 10.1210/endocr/bqaf028

Abstract

Glucagon-like peptide-1 (GLP-1) is abundant in the circulation, and it is well-known to regulate glucose homeostasis, feeding, and body weight. GLP-1 receptor agonists are therefore approved for treating type 2 diabetes and obesity. However, more recent research has demonstrated that GLP-1 acts within the brain to modulate reward responses, thereby highlighting GLP-1 as a potential target for addiction. Specifically, preclinical studies demonstrated that GLP-1 receptor agonists decrease alcohol intake, reduce the motivation to consume alcohol, and prevent relapse drinking by potentially lowering alcohol-induced reward. These preclinical results have been confirmed and extended in human studies in which GLP-1 receptor agonists reduce alcohol intake in patients with alcohol use disorder (AUD) who have a regular weight or comorbidity of obesity or type 2 diabetes. On a similar note, genetic variations in genes encoding for the GLP-1 receptor are associated with AUD and heavy drinking. The central mechanisms by which GLP-1 regulates alcohol-related behaviors are not fully defined, but may involve areas central to reward as well as regions projecting to these reward areas, such as the nucleus tractus solitarius of the brainstem. Together, existing preclinical and clinical data suggest that GLP-1 is involved in the AUD process and implies its role as a tentative treatment for AUD.

Keywords: addiction; alcohol; appetite-regulatory hormones; dependence; dopamine; drugs of abuse; gut–brain axis; reward.

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Neuroprotection in Parkinson’s Disease

Data on animal models and preclinical studies show that GLP1-R agonists can restore dopamine levels, inhibit dopaminergic loss, attenuate neuronal degeneration and alleviate motor and non-motor features of PD. Evidence from clinical studies is also very promising, enhancing the possibility of adding GLP1-R agonists to the current armamentarium of drugs available for PD treatment.

Review > Int J Mol Sci. 2024 Mar 29;25(7):3812. doi: 10.3390/ijms25073812.

GLP-1 Receptor Agonists: A New Treatment in Parkinson's Disease

Kallirhoe Kalinderi [1], Vasileios Papaliagkas [2], Liana Fidani [1]

Affiliations + expand

PMID: 38612620 PMCID: PMC11011817 DOI: 10.3390/ijms25073812

Abstract

Parkinson's disease (PD) is one of the most common neurodegenerative diseases. Recent data highlight similarities between neurodegenerative diseases, including PD and type 2 diabetes mellitus (T2DM), suggesting a crucial interplay between the gut-brain axis. Glucagon-like peptide-1 receptor (GLP-1R) agonists, known for their use in T2DM treatment, are currently extensively studied as novel PD modifying agents. For this narrative review article, we searched PubMed and Scopus databases for peer-reviewed research, review articles and clinical trials regarding GLP-1R agonists and PD published in the English language with no time restrictions. We also screened the references of the selected articles for possible additional articles in order to include most of the key recent evidence. Many data on animal models and preclinical studies show that GLP1-R agonists can restore dopamine levels, inhibit dopaminergic loss, attenuate neuronal degeneration and alleviate motor and non-motor features of PD. Evidence from clinical studies is also very promising, enhancing the possibility of adding GLP1-R agonists to the current armamentarium of drugs available for PD treatment.

Keywords: GLP-1; GLP1-R agonists; Parkinson’s disease; clinical trials; exendin-4; liraglutide; lixisenatide; neurodegeneration; semaglutide; type 2 diabetes mellitus.

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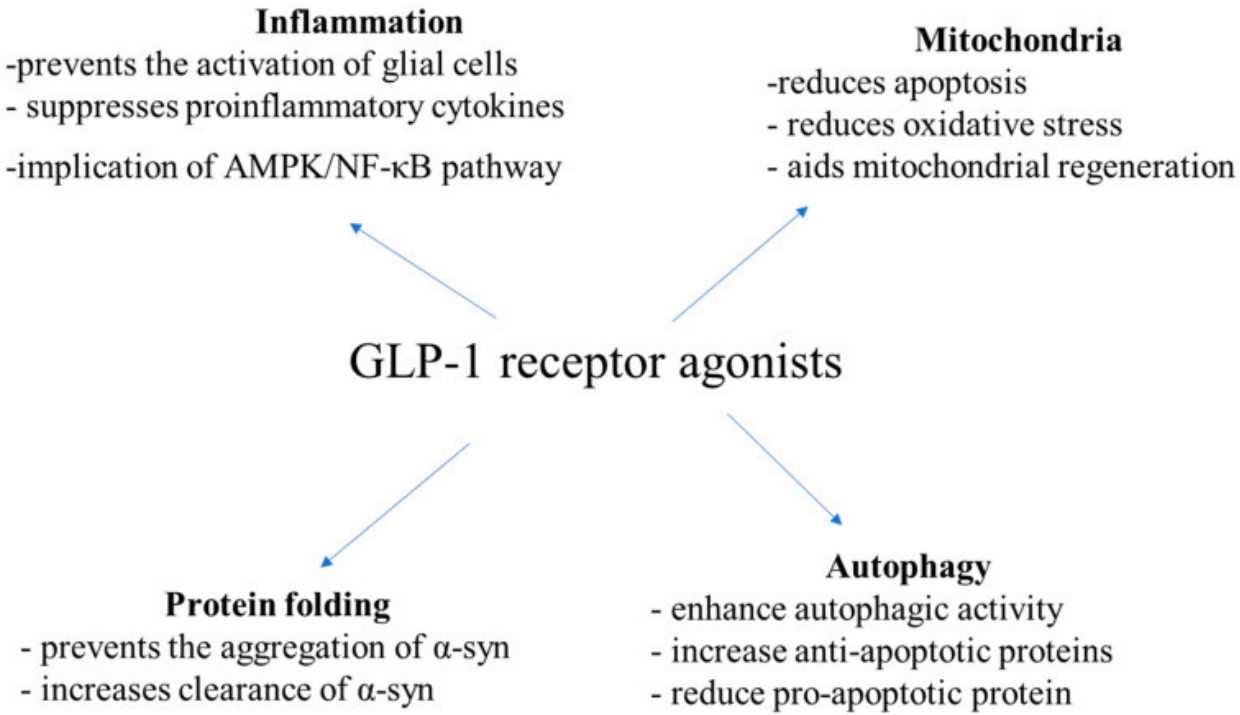
Integrative Naturopathic Practitioner

Mechanisms of Action in Parkinson Disease



PMID: 38612620

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J Clin Rheumatol. 2024 Jan 1;30(1):26-31. doi: 10.1097/RHU.0000000000001949.
Epub 2023 Mar 6.

Glucagon-Like Peptide 1 Receptor Agonists in Patients With Inflammatory Arthritis or Psoriasis: A Scoping Review

Derin Karacabeyli [1], Diane Lacaille [2]

Affiliations + expand

PMID: 36870080 DOI: 10.1097/RHU.0000000000001949

Inflammatory Arthritis & Psoriasis

Basic science experiments demonstrated weight-independent immunomodulatory effects of GLP-1 analogs through inhibition of the NF-κB pathway (via AMP-activated protein kinase phosphorylation in psoriasis and prevention of IκBα phosphorylation in RA). In RA, improved disease activity was reported. In psoriasis, 4 of 5 clinical studies demonstrated significant improvements in Psoriasis Area Severity Index and weight/body mass index with no major adverse events.

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Special Populations - Autoimmunity & Cancer

- Autoimmunity: focus on energy/protein sufficiency, fatigue management, gut tolerance
- Cancer/oncology contexts: Post treatment, use only under specialist guidance, priorities nausea and GI symptom management

Lots of Positives given the drivers of Autoimmunity and Cancer

1. Metabolic
2. Immunomodulatory
3. Anti-inflammatory

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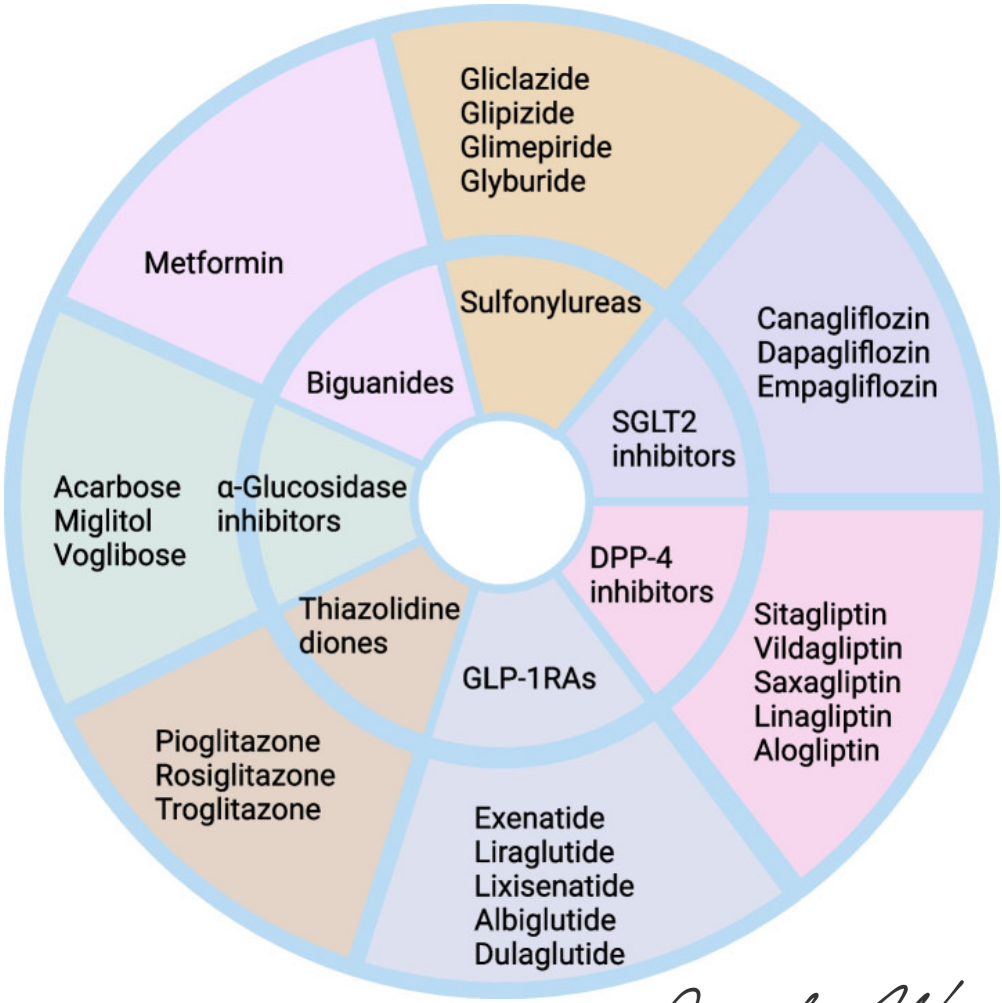
Repurposing Metabolic Regulators in Cancer

Different classes of antidiabetic drugs (inner circle) and names of drugs (outer circle) which are repurposed used to treat cancer.

PMID: 39333445



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Breast Cancer

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> Oncology (Williston Park). 2025 Aug 8;null(7):294-296. doi: 10.46883/2025.25921046.

GLP-1 Receptor Agonist Use and Weight Change in Patients With Breast Cancer

Sherry Shen, Bethina Liu Md, Chad Fanti Md, Maria Bromberg Mph, Yuan Chen PhD, Cassandra Chang, Neil M Iyengar Md

PMID: 40834286 DOI: 10.46883/2025.25921046
Free article

Abstract

Obesity and weight gain are associated with adverse outcomes following breast cancer diagnosis; some breast cancer treatments contribute to postdiagnosis weight gain. We evaluated patients with breast cancer who were prescribed a glucagon-like peptide-1 receptor agonist (GLP-1 RA), with follow-up weight data available. Weights were categorized by time from GLP-1 RA initiation; a linear mixed effects model with a random intercept for baseline weight was used to assess mean weight change at each time point. Among 75 patients, the median age was 52 years (range, 27-74), 62 (86%) were postmenopausal, and 59 (79%) had diabetes. Additionally, 68 (91%) patients had stage 0 to III breast cancer, and 62 (84%) had estrogen receptor-positive disease. The median body mass index (BMI) at baseline was 34 (range, 23-50). The mean weight change was -2.9 kg (95% CI, -4.1 to -1.7) at 6 months and -4.2 kg (95% CI, -5.5 to -2.9) at 12 months; mean weight change at 12 months was -5% (95% CI, -6% to -3%). In univariable and multivariable analyses, age, baseline BMI, diabetes, stage, histology, receptor status, menopausal status, and concurrent endocrine therapy use were not significantly associated with 5% or greater weight loss at 12 months. These results support the development of clinical trials to optimize the use and dosing of GLP-1 RAs for weight loss in patients with breast cancer.

Autoimmunity – More Info Needed

Protective effect on:

- T1DM
- Hypothyroidism
- Primary biliary cholangitis (PBC)
- Rheumatoid arthritis

However, increased risks in:

- Graves' disease
- Ulcerative colitis
- Psoriasis?

Meta-Analysis > J Autoimmun. 2025 May:153:103414. doi: 10.1016/j.jaut.2025.103414. Epub 2025 Apr 1.

Exploring glucagon-like peptide-1 receptor agonists as potential disease-modifying agents in autoimmune diseases

Yuanyuan Yang [1], Wencong Liu [2], Zechang Zhang [1], Yujia Zhang [1], Xuebin Wang [3], Jing Wang [1], Huaifang Cai [1], Yichan Liu [1], Ran Meng [1], Yuqi Fu [1], Hongmin Luo [4], Lei Yang [5], Wenxuan Liu [6]

Affiliations + expand

PMID: 40174283 DOI: 10.1016/j.jaut.2025.103414

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GLP-1 & The Microbiome

May enhance beneficial microbial composition and support sustained metabolic and gastrointestinal health.

- May help restore microbial balance disrupted by obesity and insulin resistance
- Reduce inflammation in the gut
- May shift gut microbial ecosystem in favorable ways
- Reduce populations of Bacillota - Bacteria linked to obesity & insulin resistance
- Decrease levels of gram-negative bacteria - Produce inflammatory compounds like LPS

› Nutrients. 2025 Apr 9;17(8):1303. doi: 10.3390/nu17081303.

Effects of GLP-1 Analogues and Agonists on the Gut Microbiota: A Systematic Review

Krzysztof Ksawery Gofron [1], Andrzej Wasilewski [2], Sylwia Małgorzewicz [3 4]

Affiliations + expand

PMID: 40284168 PMCID: PMC12029897 DOI: 10.3390/nu17081303

Abstract

Background: GLP-1 analogues are a relatively new class of medications that form the cornerstone of diabetes treatment. They possess invaluable glucose-lowering properties without hypoglycemic effects as well as strong cardioprotective effects. The gut microbiome has become the focus of numerous studies, demonstrating its influence not only on the gut but also on the overall well-being of the entire body. However, the effects of GLP-1 analogs on gut microbiota remain uncertain.

Scope of review: Our systematic review (based on PRISMA guidelines) aimed to gather knowledge on the effects of GLP-1 analogue medications on the composition, richness, and abundance of gut microbiota in both animal and human models.

Conclusions: Thirty-eight studies were included in this systematic review. GLP-1 analogues have demonstrated a notable impact on the composition, richness, and diversity of gut microbiota. We can conclude, following the obtained research results of our study, that liraglutide promotes the growth of beneficial genera relevant for beneficial metabolic functions. Exenatide and exendin-4 administration showed various effects on the microbiome composition in animal and human studies. In animal models, it increased genera associated with improved metabolism; however, in human models, genera linked to better metabolic functions and escalated inflammation increased. Following dulaglutide administration, increases in *Bacteroides*, *Akkermansia*, and *Ruminococcus*,

PMID: 40284168

Safety Pearls for Everyday Practice

- Titrate low & slow
- Pause dosing increase if GI symptoms occur
- Watch for red-flag abdominal pain (pancreatitis/gallbladder)
- Separate oral meds if absorption timing matters
- Caution ‘improving digestion’ with CM
- Clear plan for titration & personalised micro dosing

Switching & Stopping

“Glucagon-like peptide-1 receptor agonists have revolutionized the management of obesity. However, when they are discontinued, often due to reimbursement limitations, there is a high risk of weight regain. This is linked to complex biological mechanisms, including hormonal disruption, a drop in basal metabolism, and dysregulation of central reward circuits. Lasting weight loss is best achieved through a gradual transition, accompanied by professional and interdisciplinary follow-up that includes nutritional, psychological, and behavioural interventions, as well as adapted physical activity. A comprehensive approach based on therapeutic patient education is essential for maintaining long-term therapeutic benefits and preventing rebound effects.”

Correia JC, Sader J, Gariani K, Pataky Z. Gestion de l’arrêt des GLP-1 : comment accompagner une transition en toute sérénité [Managing the discontinuation of GLP-1 agonists : how to insure a smooth transition]. Rev Med Suisse. 2025 Mar 19;21(910):527-530. French. doi: 10.53738/REVMED.2025.21.910.527. PMID: 40111294.

Switching & Stopping

Common reasons: supply, cost, side effects, plateau

Plateau:

- Allow a washout when needed
- Increase calories
- Repair nutritional deficiencies
- Review health – thyroid, cortisol, hormones
- Restart low & re-titrate

Aftercare:

- Build a maintenance plan of healthy eating, protein, movement, sleep, stress management & follow-ups
- Normalise some appetite return & plan for it

Mrs M – 52 – Post Breast Cancer, Obesity, Chronic Pain & Fatigue

52-year-old with obesity & prediabetes – GLP-1 recommended

Inflammation post breast cancer, post surgery, joint damage, pain

Stress as a carer

Long-term history of poor food choices ‘quick meals’ & wine

Great compliance but poor/slow results

Discussed GLP-1 – happy I was supportive

Personalised Supportive CM Plan Created

Meal Plan for 2 meals and 1-2 snacks daily – Be Fit Food too

Rx - Orthoplex BioActive Lipids & Orthoplex SarcoCare

Mrs M – 52

1 month – 3kg lost

Stopped eating, dehydrated, not following any plan

Constipated+++

Rx – DFH Paleo Fibre, Biome Lax, DFH LV-GB Formula

2 month – 9.5kg lost

No pain, sleeping better, mood calmer

Healthy GI

Rx – Eagle Clinical Tresos Professional & BioMedica BioTress

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Mrs M – 52

5 month – 18 kg lot

Seeing Exercise Physiologist

Started Reformer Pilates

Stressed but has a new purpose

Constipated while travelling

Rx - BioMedica Immune Restore & Orthoplex CoQ150 - Will come off medication in 2 months

7 month – 21.5kg lost

New women!

Panic due to weight gain on stopping. Rx - Berberine & Orthoplex Metibol Xcell

Diet review & tracking

CGM Started to learn about food after learning about ‘The Glucose Goddess”

Maintenance plan includes monthly monitoring

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Take Home Messages

- GLP-1 era is here - CM is essential to make it safe, reduced risks, beneficial & sustainable
- Body-positive, personalised & health focussed framing is essentials
- Herbal, Nutraceutical, Nutrition & Lifestyle Medicines improve results & protect whole health during treatment & calorie reduction
- Know the red flags & coordinate with prescribers
- Collaboration is essential

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Let's explore libido and the traditional and evidence based support for sexual wellbeing, hormones, metabolic health, stress and the complementary medicine tool box bursting with herbal medicines, nutraceutical and lifestyle advice for all people.

GLP-1 Medications, Natural GLP-1 Support & Metabolic Care - 16 October 2025
Support people using semaglutide and related medications including nutrient preservation, gut health, metabolic resilience, lifestyle strategies and side effect prevention. Consider complementary medicine interventions to naturally support GLP-1 pathways. GLP-1 agonists are here to stay and not just for weight management, let's build your confidence in supporting these patients health and wellbeing goals.

Supporting Bariatric Surgery Patients - 13 November 2025
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5. Cancer Prevention Strategies for All Patients - 22 January 2026 - Buy Here
6. The Andropause Shift - 12 February 2026 - Buy Here

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